



LAPP is seeking to recruit:

2 Post-doctoral Fellows in experimental astroparticle physics within the Cherenkov Telescope Array (CTA) project.

JOBS DESCRIPTION

The LAPP institute is deeply involved in the development and implementation of the gamma-ray CTA Observatory (<https://www.cta-observatory.org/>) Data Management: namely data analysis software, services for handling and archive the large amount of data generated by the instruments, delivery of scientific products according to astrophysical standards (e.g. the Virtual Observatory) and provision of reliable open data access and data processing.

The LAPP CTA local team is also involved in the data analysis of the gamma-ray H.E.S.S. experiment (<https://www.mpi-hd.mpg.de/hfm/HESS/>) and in the deployment and commissioning of the prototype CTA Large Size Telescope (LST).

The fellows are expected to have leading roles in two complementary sets of activities:

- 1) Development of the web-based scientific analysis system integrating the scientific software for data calibration, reconstruction, archive and analysis. This system should integrate also services for control and management of the low-level data workflow, for the generation of instrument response functions through Monte Carlo simulations and finally for high-level data-products user access. The development of the on-site data pre-processing services for real-time scientific alerts follow-up with the CTA LST prototype will be part of the tasks.
- 2) Implementation of the CTA computing model, its distributed computing workload management services for data handling. Development of the low- and high-level astronomical archive system. The solutions will be tested through the CTA scientific software under development (using both CTA simulation and H.E.S.S. data) and validated against the scientific user requirements.

Both fellows will also work on the analysis of data of the H.E.S.S. telescopes. Main subjects are: indirect dark matter search, extragalactic astrophysics phenomena such as AGN and GRB, galactic cosmic-rays astrophysics.

The proposed activities will be promoted within the ASTERICS H2020 (<https://www.asterics2020.eu/>) project aiming to address common challenges shared by the various Astronomy ESFRI facilities (SKA, CTA, KM3Net & E-ELT) and other major projects (Virgo, EUCLID and LSST).

Further information may be obtained from A. Fiasson (armand.fiasson@lapp.in2p3.fr), G. Maurin (gilles.maurin@lapp.in2p3.fr) and N. Neyroud (nadine.neyroud@lapp.in2p3.fr).

PROFILE, SKILLS AND EXPERIENCE

- PhD in physics or astronomy.
- Programming skills are mandatory (C/C++, Java, Python on UNIX architecture).
- Experience in astroparticle physics and data analysis.
- Interest in/Experience in software design, development and management.
- Interest in/Experience in grid, cloud computing and big data management.
- Proficiency in English.

WORK CONDITIONS

Contract of 24 months, renewable for a further 6 to 12-month periods.

Salary is commensurate with those of public service organisations in France.

Applications should be sent to emplois.cta@lapp.in2p3.fr before May 28, 2016.